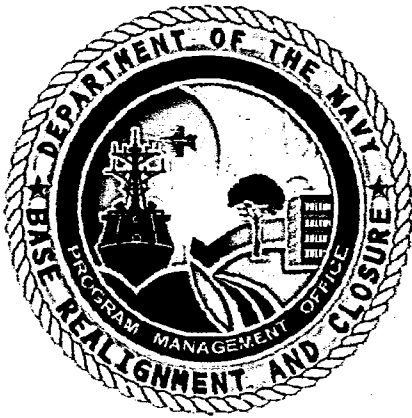


EXHIBIT 9



Final

**Record of Decision for
No Further Action at
Parcel D-2**

**Hunters Point Shipyard
San Francisco, California**

August 9, 2010

Prepared by:

**Department of the Navy
Base Realignment and Closure
Program Management Office West
San Diego, California**

Prepared under:

**Naval Facilities Engineering Command
Contract Number N62473-07-D-3213
Delivery Order 030**

This public summary represents information presented in the document listed below. Neither the document nor the public summary has been reviewed by the regulatory agencies.

Public Summary: Final Record of Decision for No Further Action at Parcel D-2, Hunters Point Shipyard, San Francisco, California, August 9, 2010

The Department of the Navy prepared this final record of decision (ROD) as the basis for the no further action decision for Parcel D-2 at Hunters Point Shipyard in San Francisco, California.

The Navy has concluded no further action under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is necessary to ensure protection of human health or the environment at Parcel D-2. Current conditions at the site do not pose an unacceptable risk to human health or the environment for current or future uses of Parcel D-2. No covers or institutional controls will be required and no groundwater cleanup is needed for Parcel D-2. A 5-year review for Parcel D-2 will not be required because hazardous substances, pollutants, or contaminants will not remain on site above levels that allow for unlimited use and unrestricted exposure. The Navy and the U.S. Environmental Protection Agency (EPA) jointly selected the no further action decision for Parcel D-2. The California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) and the San Francisco Bay Regional Water Quality Control Board (Water Board) are in concurrence with this ROD.

Information Repositories: A complete copy of the "Final Record of Decision for No Further Action at Parcel D-2" dated August 9, 2010, is available to community members at:

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, CA 94102
Phone: (415) 557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, CA 94124
Phone: (415) 355-5757

The report is also available to community members on request to the Navy. For more information about environmental investigation and cleanup at Hunters Point Shipyard contact:

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ACRONYMS AND ABBREVIATIONS

μCi	Microcurie
μg/kg	Micrograms per kilogram
μg/L	Micrograms per liter
§	Section
ALARA	As low as reasonably achievable
CDPH	California Department of Public Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
HPS	Hunters Point Shipyard
HRA	Historical Radiological Assessment
IR	Installation Restoration
LLRW	Low-level radioactive waste
mg/kg	Milligrams per kilogram
mrem/y	Millirems per year
NRDL	Naval Radiological Defense Laboratory
PQL	Practical quantitation limit
RADIAC	Radiation Detection, Indication, and Computation
RESRAD-BUILD	Residual Radioactivity-Building
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SFRA	San Francisco Redevelopment Agency
SI	Site Inspection
TCRA	Time critical removal action
TPH	Total petroleum hydrocarbon
TPH-d	Total petroleum hydrocarbon as diesel
UST	Underground storage tank
VOC	Volatile organic compound
Water Board	San Francisco Bay Regional Water Quality Control Board

1. DECLARATION

This Record of Decision (ROD) presents the basis for the no further remedial action decision for Parcel D-2 at Hunters Point Shipyard (HPS) in San Francisco, California. HPS was included on the National Priorities List in 1989 (U.S. Environmental Protection Agency [EPA] ID: CA1170090087). This decision was based upon the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 (Title 42 United States Code Section [§] 9601, et seq.) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (Title 40 Code of Federal Regulations Part 300). This decision is based on information contained in the Administrative Record for the site. Information that is not specifically summarized in this ROD or its references, but that is contained in the Administrative Record¹ has been considered and is relevant to selection of the no further action decision for Parcel D-2. Thus, the ROD is based on, and relies on the entire Administrative Record file as support for the decision ([Attachment B](#)).

The Department of the Navy and EPA have co-selected the no further remedial action decision for Parcel D-2. The California Environmental Protection Agency's Department of Toxic Substances Control (DTSC) and the San Francisco Bay Regional Water Quality Control Board (Water Board) concur with the no further remedial action decision for Parcel D-2. The Federal Facility Agreement (FFA) for HPS documents how the Navy intends to meet and implement CERCLA in partnership with EPA, DTSC, and the Water Board. The Navy provides funding for site cleanups at HPS.

The Navy originally divided HPS into six parcels (A through F) for environmental restoration. The Navy has now divided the original Parcel D into four new parcels: Parcel D-2, Parcel G, Parcel UC-1, and Parcel D-1. Parcel D-2 is 5.78 acres.

Parcel D-2 was originally within the boundary of former Parcel A (the property directly north of Parcel D) and contains Building 813. A former underground storage tank (UST S-812) site is also within the boundaries of Parcel D-2. The UST was removed in 1991. In 1995, the Navy and the regulatory agencies signed a ROD recommending no further action for Parcel A.

Beginning in 2002, a basewide Historical Radiological Assessment (HRA) was performed to identify any potential radiological contamination. The Navy used radiation detection instruments (which the Navy commonly refers to as Radiation Detection, Indication, and Computation instruments, or "RADIAC") to monitor levels and exposure to radiation at HPS. These instruments were essential to later use of gamma or X-ray radiography equipment, decontamination efforts, and personnel monitoring, as they were employed to set up appropriate barriers to keep personnel away from radiography areas, confirm decontamination results, and monitor personnel exposures. "Check sources" were available to monitor proper operation of

¹ **bold blue text** identifies detailed site information available in the Administrative Record and listed in the References Table ([Attachment A](#)). This ROD is also available on CD, whereby **bold blue text** serves as a hyperlink to reference information. The hyperlink will open a text box at the top of the screen. A blue box surrounds applicable information in the hyperlink. To the extent there may be inconsistencies between the referenced information attached to the ROD via hyperlinks and the information in the basic ROD itself, the language in the basic ROD controls.

RADIACs in the field. These check sources were small, sealed sources of a certified quantity of radioactive material. During research to support the HRA, documentation was found indicating that a single leaking 300-microcurie (μCi) strontium-90 check source may have been stored in Building 813 in the past. The Navy concluded that spread of contamination from this source would be unlikely. However, the Navy recommended further evaluation of potential radiological contamination at Building 813. The Navy therefore revised the southeastern boundary of Parcel A to exclude Building 813 so that radiological surveys could be completed. The boundary revision resulted in the inclusion of Building 813 and the surrounding paved areas within Parcel D.

The HPS storm and sanitary combined sewer system was installed in the 1940s and underwent a series of separation projects (1958 through 1976), but was never completely separated. Based on gamma surveys of key manholes in the HRA, the determination was made that potential contamination of the storm and sanitary sewer system was likely near former Naval Radiological Defense Laboratory (NRDL) sites or sites associated with radium use. Therefore, the Navy recommended removal of sanitary and storm sewers at Parcels B, C, D, E, and E-2.

In 2006, the Navy began implementation of a basewide Time-Critical Removal Action (TCRA) addressing radiological contamination in storm and sanitary sewers throughout the base for the Parcel D-2 storm and sanitary sewers. The TCRA was conducted in stages. First, piping laterals were removed to within the first 10 feet of their union with a main trunk line. If no radiological contamination was present in this segment of the line, then the exposed ends of the lateral were capped or plugged and the remaining portions were left in place. Next, if evidence of radiological contamination was encountered, the remaining lateral was removed in 10-linear-foot sections until the line had been determined to be free of radioactive contamination, or to be as removed as close to Building 813 or other obstruction (stairways or loading docks) as practicable, whichever came first.

Sewer lines on the north side of Building 813 were not excavated because of their proximity to the retaining wall separating Parcel D-2 from the adjacent property and to prevent undermining the Building 813 loading dock. These sewer lines either drain storm water from the roof of Building 813, or are associated with upgradient storm drain lines emanating from the non-radiologically impacted San Francisco Redevelopment Agency (SFRA) property (formerly Parcel A, which was released for unrestricted use). Based on analytical results and the results of the radiological surveys, the Navy concluded that the storm drain piping remaining in place on Parcel D-2 after the TCRA was not radiologically impacted. The excavated storm drain and sanitary sewer trenches were backfilled to grade and covered with road base.

In 2007, the Navy surveyed Building 813 for radiological contamination and found the residual radioactivity meets the stated release criteria. The California Department of Public Health (CDPH) conducted its own verification survey and approved the final status survey report for Building 813 on April 1, 2008. The final status survey report concluded Building 813 is ready for unconditional unrestricted use. Piping under the footprint of Building 813 and outdoor areas was evaluated as part of the final status survey.

The Navy has concluded there are no unacceptable risks from hazardous substances and that the residual radioactivity at Parcel D-2 meets the stated criteria for unconditional unrestricted use. Therefore, a no further remedial action ROD is appropriate for this parcel. No covers or institutional controls will be required and no groundwater cleanup is needed for Parcel D-2.

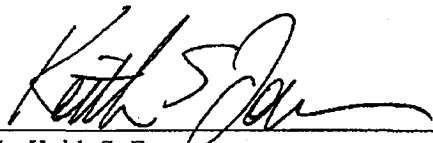
This ROD documents that no remedial action is necessary for Parcel D-2.

1.1 SELECTED REMEDY AND STATUTORY DETERMINATIONS

The Navy has concluded no further CERCLA action is necessary to ensure protection of human health or the environment at Parcel D-2. Current conditions at the site do not pose an unacceptable risk to human health or the environment for current or future uses of Parcel D-2, and the entire property will be health protective for all types of uses. A 5-year review for Parcel D-2 will not be required because hazardous substances, pollutants, or contaminants will not remain on site at levels that will restrict any uses.

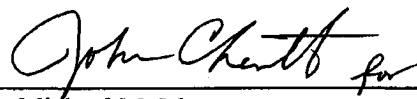
1.2 AUTHORIZING SIGNATURES

This signature sheet documents the Navy's and EPA's co-selection of the remedy in this ROD. This signature sheet also documents the State of California's (DTSC and Water Board) concurrence with this ROD.


 Mr. Keith S. Forman
 Base Realignment and Closure Environmental Coordinator
 Base Realignment and Closure Program Management Office West
 Department of the Navy

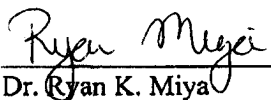
06/10/10

Date


 Mr. Michael M. Montgomery
 Assistant Director of Federal Facilities
 and Site Cleanup Branch, Region 9
 U.S. Environmental Protection Agency

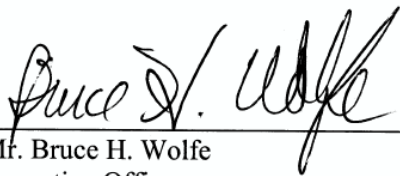
6/22/10

Date


 Dr. Ryan K. Miya
 San Francisco Peninsula Team Leader
 California Environmental Protection Agency
 Department of Toxic Substances Control

8/9/10

Date


 Mr. Bruce H. Wolfe
 Executive Officer
 California Environmental Protection Agency
 San Francisco Bay Regional Water Quality Control Board

7/15/10

Date

2. DECISION SUMMARY

2.1 SITE DESCRIPTION AND HISTORY

HPS is located in southeastern San Francisco on a peninsula that extends east into San Francisco Bay (see [Figure 1](#)). HPS consists of 866 acres: 420 acres on land, and 446 acres under water in the San Francisco Bay. In 1940, the Navy obtained ownership of HPS for shipbuilding, repair, and maintenance. After World War II, activities at HPS shifted to submarine maintenance and repair. HPS was also the site of the NRDL from 1946 to 1969. HPS was deactivated in 1974 and remained relatively unused until 1976. Between 1976 and 1986, the Navy leased most of HPS to Triple A Machine Shop, Inc., a private ship repair company. In 1987, the Navy resumed occupancy of HPS.

HPS property was included on the National Priorities List in 1989, pursuant to CERCLA as amended by SARA, because past shipyard operations left hazardous substances on site. In 1991, HPS was designated for closure pursuant to the Defense Base Closure and Realignment Act of 1990. Closure at HPS involves conducting environmental remediation and making the property available for nondefense use.

The Navy has divided former Parcel D into four new parcels: Parcel D-2, Parcel G, Parcel UC-1, and Parcel D-1.

The redevelopment plan developed by SFRA in 1997 proposed Parcel D-2 as an area for research and development reuse. The SFRA redevelopment plan allows for residential uses in research and development reuse areas. Parcel D-2 is not associated with any Installation Restoration (IR) site.

Parcel D-2₍₁₎, which includes Building 813 and the site of a former UST (UST S-812) (see [Figure 2](#)), was originally part of Parcel A. Building 813 is a large warehouse that was used as offices, a supply storehouse, and the Disaster Control Center. During research to support the HRA, documentation was found indicating a single leaking 300 μ Ci strontium-90 check source may have been stored in Building 813 in the past. As a result, the Navy recommended further evaluation of potential radiological contamination at Building 813. UST S-812 was used to store fuel oil for a boiler in Building 813. According to the HRA, UST S-812 was not radiologically impacted. Subsequently, in 2004, the southeastern boundary of Parcel A was revised to exclude Building 813 so it could be surveyed for potential radiological contamination. The boundary revision resulted in inclusion of Building 813 within Parcel D. After the Parcel A boundary had been revised, Parcel A was transferred to the City and County of San Francisco pursuant to a Finding of Suitability for Transfer.

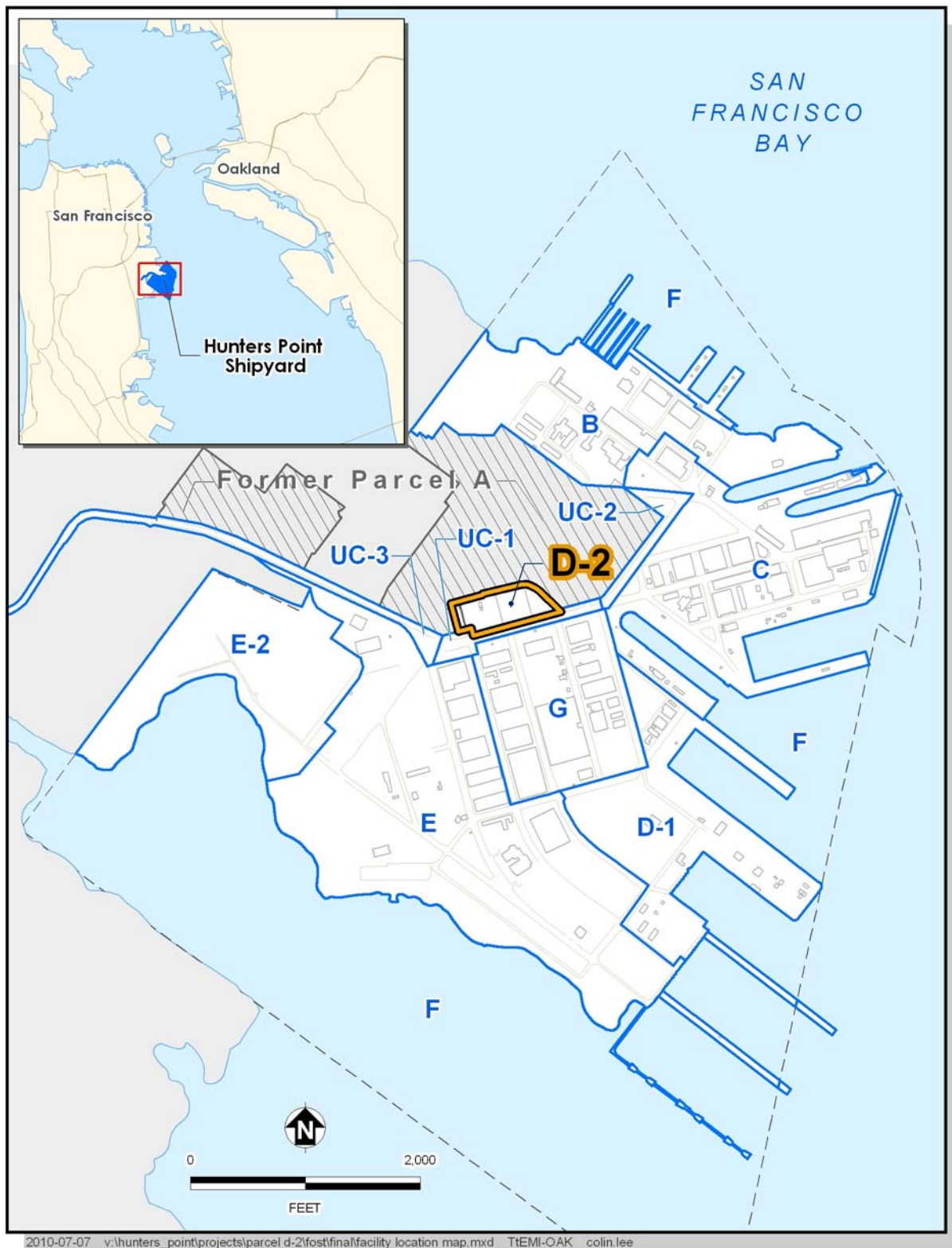


Figure 1. Facility Location Map

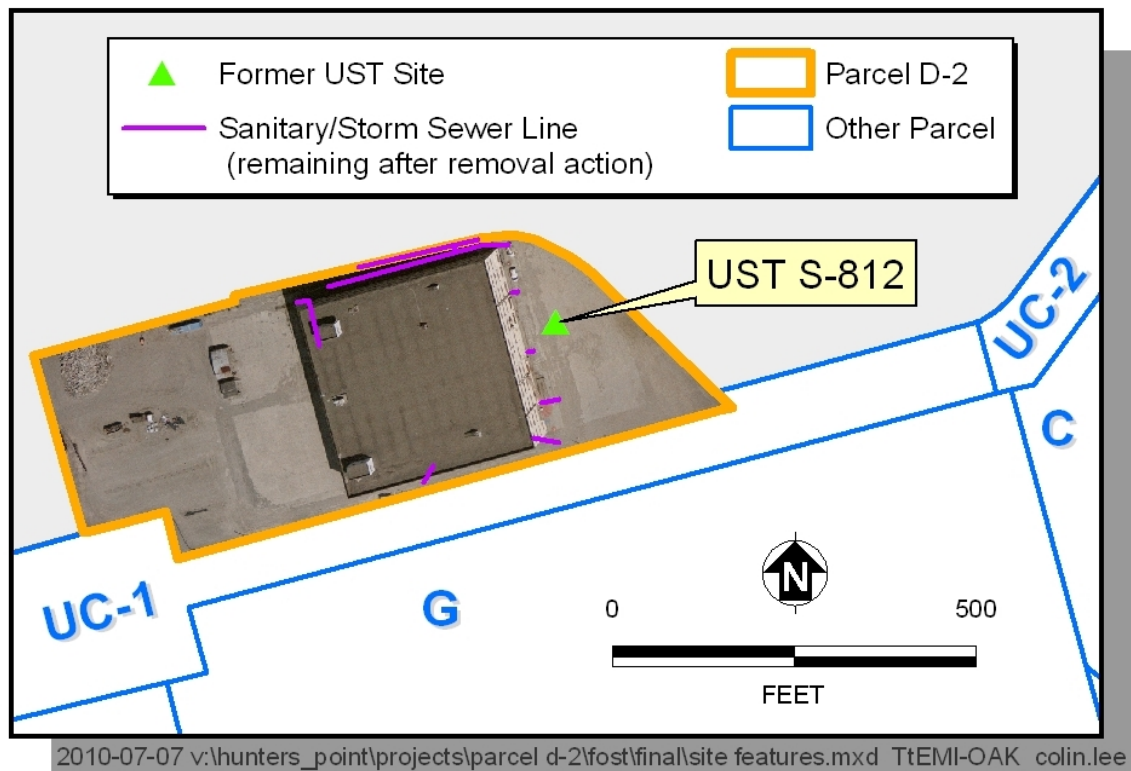


Figure 2. Parcel D-2 Site Features Map

2.2 SITE CHARACTERISTICS

Parcel D-2 consists of flat lowlands that are part of the original promontory of Franciscan Formation bedrock that underlies HPS. Metals are naturally occurring in the minerals in the bedrock.

The **hydrogeologic setting**₍₂₎ at Parcel D-2 consists of a bedrock water-bearing zone, with groundwater likely present in limited fractures. Groundwater is not currently used for any purpose at Parcel D-2.

Parcel D-2 ecology is limited to plant and animal species adapted to the industrial environment. The parcel is covered with Building 813 and surrounding pavement (see [Figure 2](#)). Viable terrestrial habitat is limited at Parcel D-2 because the ground surface is paved or covered by structures. No threatened or endangered species are known to inhabit Parcel D-2 or its immediate vicinity.

2.3 PREVIOUS INVESTIGATIONS AND REMOVAL ACTIONS

In 1993, the Navy performed a Site Inspection (SI) to evaluate potential contamination at Parcel A. Building 813 was investigated, and an **inventory**⁽³⁾ of the building was prepared to identify any potential sources of contamination. No sources of contamination inside the building were identified at that time. In 1976, UST S-812 was installed adjacent to Building 813 and used to store fuel oil for a boiler in Building 813. In 1991, UST S-812 was **removed**⁽⁴⁾, and soil and groundwater samples were collected for chemical analysis. The site was then **backfilled and paved**⁽⁵⁾. The 1991 soil and groundwater analytical **results**⁽⁶⁾ showed concentrations of metals below ambient levels. One soil sample contained a semivolatile organic compound (phenanthrene at 190 micrograms per kilogram [$\mu\text{g/kg}$]). The only volatile organic compound (VOC) detected was total xylenes at 5 $\mu\text{g/kg}$. Diesel was the only total petroleum hydrocarbon (TPH) compound detected in the soil samples. One sample from the UST excavation contained TPH as diesel (TPH-d) at 14 milligrams per kilogram (mg/kg). The product pipe samples contained TPH-d at levels ranging from 18 to 32 mg/kg. The Water Board issued a closure letter for UST S-812 in January 2000.

Seven VOCs (benzene; 1,2-dichloroethane; 1,1-dichloroethene; tetrachloroethene; 1,1,1-trichloroethane; trichloroethene; and toluene) were detected in the groundwater sample from the UST excavation. Each VOC was quantified at an estimated value less than, or equal to 6 micrograms per liter ($\mu\text{g/L}$) and below the laboratory practical quantitation limit (PQL). In 1993, and in response to **regulatory agency concerns**⁽⁷⁾, the Navy conducted an additional groundwater investigation. VOCs were not detected in any of the groundwater samples in concentrations at or above the PQL of 10 $\mu\text{g/L}$. With the exception of acetone, no VOCs were detected above the method detection limit; the acetone detection was determined to be a result of laboratory contamination. The Navy therefore concluded that no further evaluation of the groundwater was necessary.

Based on the SI and the subsequent groundwater results, the area that is now Parcel D-2 (Building 813 and the area immediately surrounding it) did not qualify to be included in the Remedial Investigation. In 1995, a no further action ROD was signed for Parcel A, which included this area at the time (see [Table 1](#)).

In 2004, the Navy completed a **basewide HRA**⁽⁸⁾. During research to support the HRA, documentation was found indicating that a single leaking 300 μCi strontium-90 check source may have been stored on the first floor of Building 813 in the past. As a result, the Navy recommended further evaluation of **potential radiological contamination**⁽⁹⁾ at Building 813. Subsequently, the southeastern **boundary**⁽¹⁰⁾ of Parcel A was revised to exclude Building 813 so it could be surveyed for potential radiological contamination. As a result of the boundary revision, Building 813 was included within Parcel D.

TABLE 1. PREVIOUS INVESTIGATIONS AND REMOVAL ACTIONS

Record of Decision for No Further Action at Parcel D-2, Hunters Point Shipyard, San Francisco, California

Previous Investigation/ Removal Action*	Date	Investigation/Removal Action Activities
Parcel A Site Inspection	1993	Evaluated whether contamination was present and whether a release to the environment had occurred, evaluated each site for inclusion in the Navy's IR Program, and eliminated sites that posed no significant threats to public health or the environment. UST S-812 within Parcel D-2 was removed, backfilled, and paved, and soil and groundwater samples were collected for chemical analysis.
Draft Report of Results for Work Plan Addendum No. 4, Parcel A Site Inspection Report	1993	Additional groundwater samples were collected to further characterize the extent of VOCs in groundwater. All results demonstrated VOCs are not present.
Parcel A Record of Decision	1995	Describes the no further action remedy selected for Parcel A, including Parcel D-2.
Historical Radiological Assessment	2004	Evaluated and designated sites as impacted or non-impacted. An impacted site has the potential for radioactive contamination based on historical information, or is known to contain or have contained radioactive contamination. A non-impacted site is one, based on historical documentation or results of previous radiological survey information, where there is no reasonable possibility for residual radioactive contamination. Based on the results of the assessment, Building 813 within Parcel D-2 was identified as impacted.
Parcel A Finding of Suitability for Transfer	2004	Documents the transfer of Parcel A to the City and County of San Francisco and the exclusion of Parcel D-2 from Parcel A.
Final Status Survey Report, Building 813	2007	Scoping survey to evaluate whether contamination existed on the first floor of Building 813. Floors and walls were surveyed and swipe samples were collected to evaluate the potential presence of radiation at static reading locations. This report received regulatory agency approval that no further action was required.
Final Radiological Addendum for the Feasibility Study for Parcel D	2008	Evaluated radiological risk at Parcel D, including Building 813. States that Building 813 has been surveyed for release from radiological control pending regulatory agency approval.
Final Survey Unit Project Reports for Survey Units 31, 32, 34, 35 and 38, Sanitary Sewer and Storm Drain Removal Project	2008	Documents that the residual radioactivity levels identified inside the excavated sanitary and storm sewer trench areas and within the import soils used as backfill met the release criteria.
Proposed Plan for Parcel D	2008	Proposed Plan invited the public to review and comment on the preferred alternatives for addressing environmental contamination at Parcel D before the final remedy selection.
Final Removal Action Completion Report	2010	Documents completion of the radiological TCRA at Parcel D-2.

Note:

* The documents listed are available in the Administrative Record and provide detailed information used to support remedy selection at Parcel D-2.

The HPS storm and sanitary combined sewer system was installed in the 1940s and underwent a series of separation projects (1958 to 1976), but was never completely separated. Based on gamma surveys of key manholes in the HRA, the determination was made that potential contamination of the storm and sanitary sewer system was likely near former NRDL sites or sites associated with radium use. Therefore, the Navy also recommended removal of sanitary and storm sewers at Parcels B, C, D, E and E-2. In 2006, the Navy began implementation of a TCRA to address the Parcel D-2 storm and sanitary sewers. The TCRA was conducted in stages. First, piping laterals were removed to within the 10-foot safety buffer surrounding the structure or other associated obstructions. If no radiological contamination was present in this segment of the line, then the exposed ends of the lateral were capped or plugged and the remaining portions left in place. Next, however, if evidence of radiological contamination was encountered, the remaining lateral was removed in 10-linear-foot sections until the line had been determined to be free of radioactive contamination or to the face of Building 813 or other obstruction (stairways or loading docks) as practicable, whichever came first.

Six of the eight drain lines left in place at Building 813 were associated with a roof drain system. The Navy concluded there was a low potential for radiological contamination to enter the storm sewer systems from the roof drains. The Navy further concluded that roof drain pipes are not contaminated and may be left in place within the 10-foot safety buffer.

Sewer lines located on the north side of Building 813 were not excavated because of their proximity to the retaining wall that separates Parcel D-2 from the adjacent property and to prevent undermining the Building 813 loading dock. These lines either drain stormwater from the roof of Building 813 or are associated with upgradient storm drain lines emanating from the non-radiologically impacted SFRA property (formerly Parcel A, which was released for unrestricted use). Only two sanitary sewer lines (06-D12-00-1O and 06-D12-00-8D) were found to emanate from the eastern and southern sides of Building 813. A 10-foot section of line 06-D12-00-1O and a 20-foot section of line 06-D12-00-8D were not removed during excavation. Trench segment 06-D12-00-1O is a 6-inch-diameter, concrete-encased vitreous clay pipe. A total of 27 pieces of the removed sections of this pipe segment were surveyed, which includes a 100 percent surface scan, static measurements, and two swipe samples. None of the 27 pieces of segment 06-D12-00-1O showed activity above the release criteria. The pipe segment did not contain any sediment for collection and analysis.

Segment 06-D12-00-8D is a 4-inch-diameter, cast-iron pipe not included in the Navy's design drawings for the sewer system. Although 20 feet of pipe segment 06-D12-00-8D was not removed, this pipe runs at a diagonal toward manhole MH207, and the majority of its length is within the 10-foot safety buffer. Manhole MH207 was removed as part of the Fisher/Spear (Utility Corridor 1) sewer removal action performed in 2009. No sediment was available in MH207 for sampling. A total of four pieces (about 28 linear feet) of 06-D12-00-8D sewer pipe was removed during the excavation. There was insufficient sediment in the pipe to collect a sample. However, radiological surveys were performed on each of the four excavated pipe pieces, which includes a 100 percent surface scan, static measurements, and two swipe samples. No activity above the release criteria was found during the survey.

Based on analytical results and the radiological surveys, the Navy concluded that the storm drain piping remaining in place on Parcel D-2 after the TCRA was not radiologically impacted. The excavated storm drain and sanitary sewer trenches were backfilled to grade and covered with road base. The removal action is described in detail in the February 2010 Final Removal Action Completion Report, Revision 1.

In 2007, the Navy surveyed Building 813 to evaluate whether strontium-90 or other radionuclides were a concern. Survey results concluded **Building 813 could be released**⁽¹¹⁾ from radiological control pending regulatory agency approval. CDPH reviewed all radiological documentation on Building 813 and on April 1, 2008, concurred that no action was required and that **Building 813 was acceptable for unrestricted use**⁽¹²⁾.

In 2009, the Navy completed removal of the sanitary and storm sewers. A total of 1,988 linear feet of trench (including overburden soil, peripheral material, excavated soil, and pipe/manhole) was excavated during the TCRA. One of the seven manholes (MH208) was disposed of as low-level radioactive waste (LLRW) because cesium-137 activity was detected above the release limit, and only 3 linear feet of pipe was disposed of as LLRW based on elevated static measurements. Identification of elevated activity in piping or manholes does not necessarily indicate historical use or storage of radioactive material at the nearest radiologically-impacted area because the HPS combined storm drain and sanitary sewer systems have been modified and repaired over many years, and flow patterns may have changed. The identification of cesium-137 activity above the release limit in MH208 sediment is consistent with the conceptual site model for the radiologically-impacted storm drain and sanitary sewers at HPS. The Navy has conducted surveys showing all areas of **Parcel D-2 storm drains and sanitary sewers meet the risk criteria for release**⁽¹³⁾. DTSC and CDPH reviewed all radiological documentation on the storm drains and sanitary sewers in Parcel D-2, and on August 9, 2010, concurred that no further action was required and that **Parcel D-2 was acceptable for unrestricted use**⁽¹⁴⁾.

2.4 CURRENT AND POTENTIAL FUTURE SITE USES

Currently, Building 813 is not used. The building and all of Parcel D-2 were proposed for research and development reuse. The **groundwater**⁽¹⁵⁾ at Parcel D-2 is not considered suitable for drinking water, based on the insignificant and nonsustainable quantities of groundwater.

2.5 SUMMARY OF SITE RISKS

Risk⁽¹⁶⁾ to human health from exposure to chemicals in soil and groundwater was not evaluated for Parcel D-2 because no source of chemical contamination was identified.

The only potential source of radiological contamination for Building 813 was from strontium-90 detected in a device that may have been stored inside the building (see **Figure 3**). Cesium-137 and radium-226 were also evaluated in Building 813 because a cabinet was identified during a walkthrough of the building that bore a radioactive materials placard. The flow patterns in the combined storm drain and sanitary sewer system at HPS may have changed because they were

modified and repaired throughout the years. Based on the HRA recommendation, cesium-137, radium-226, and strontium-90 were evaluated as potential sources of radiological contamination in sanitary and storm sewers at Parcels B, C, D, E, and E-2. A total of 1,988 linear feet of trench (including overburden soil, peripheral material, excavated soil, and pipe/manhole) was excavated at Parcel D-2 during the TCRA (see Figure 3). Only one manhole and 3 linear feet of piping were identified as LLRW and these were removed.

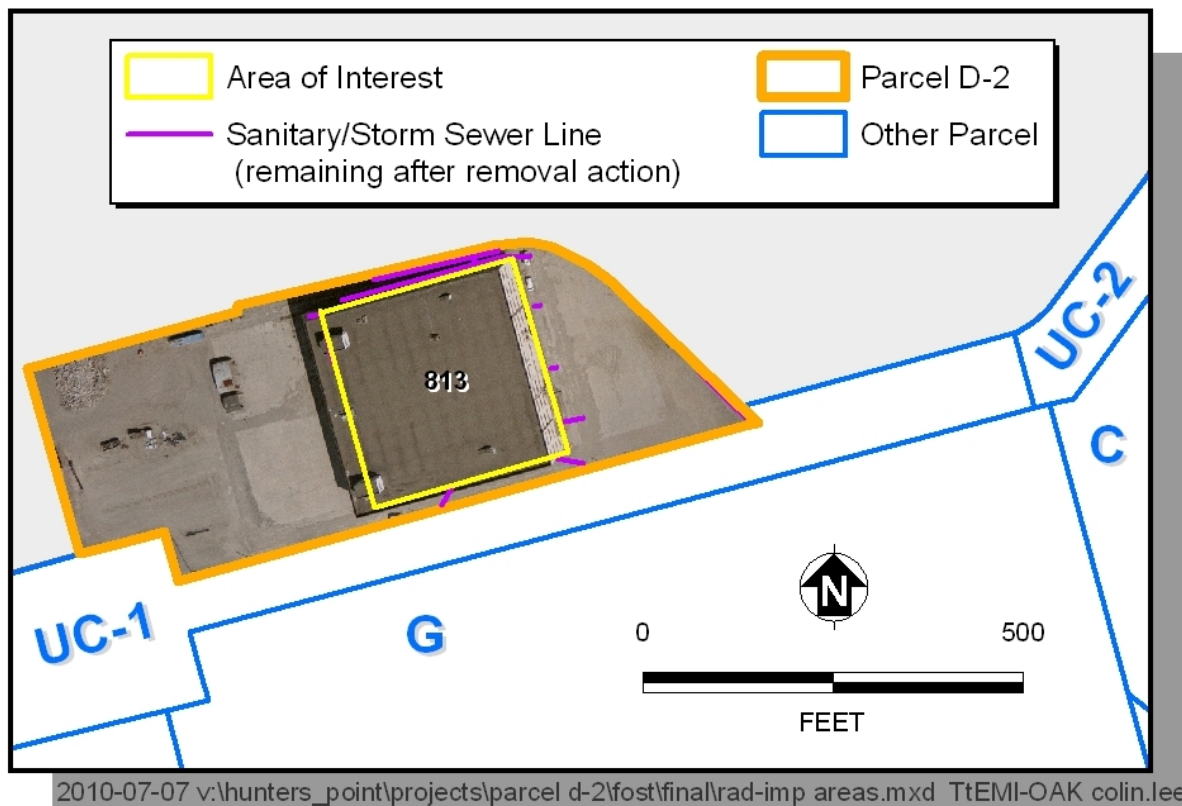


Figure 3. Site Evaluated for Radionuclides

2.5.1 Human Health Risk Evaluation

Based on a human health **conceptual site model**⁽¹⁷⁾, **radiological risk**⁽¹⁸⁾ to human health from exposure to Building 813 and the storm drain and sanitary sewer systems in Parcel D-2 was evaluated. Residual Radioactivity-Building (**RESRAD-BUILD**)⁽¹⁹⁾ was used to calculate doses and model risks for Building 813 and to analyze the exposure scenarios that matched the planned reuse of Parcel D-2. The Radiological Addendum specifies the **assumptions and uncertainties**⁽²⁰⁾ inherent in the risk assessment process because of the input parameters and exposure pathways.

Demonstration of both a net residual dose of less than 15 millirems per year (mrem/y) and a net increased health risk of less than 10^{-6} to 10^{-4} to the average member of the critical group (or member of the public) was considered sufficient for unrestricted release of Building 813 and the storm drain and sanitary sewer survey units. The net dose and health risk for Building 813 and

each survey unit are summarized in [Table 2](#). The approach to [dose modeling](#)⁽²¹⁾ was presented in the final survey unit projects abstract.

TABLE 2. HUMAN HEALTH RISK ASSESSMENT RESULTS

Record of Decision for No Further Action at Parcel D-2, Hunters Point Shipyard, San Francisco, California

Area	Net Dose [mrem/y]	Dose Remedial Goal [mrem/y]	Net Health Risk	Health Risk Remedial Goal
Building 813 ⁽²²⁾	0.00	< 15	NA	< 10 ⁻⁶ to 10 ⁻⁴
Survey Unit 31 ⁽²³⁾	< 1	< 15	2.678 x 10 ⁻⁷	< 10 ⁻⁶ to 10 ⁻⁴
Survey Unit 32 ⁽²⁴⁾	< 1	< 15	4.301 x 10 ⁻⁷	< 10 ⁻⁶ to 10 ⁻⁴
Survey Unit 34 ⁽²⁵⁾	< 1	< 15	5.697 x 10 ⁻⁸	< 10 ⁻⁶ to 10 ⁻⁴
Survey Unit 35 ⁽²⁶⁾	< 1	< 15	4.540 x 10 ⁻⁷	< 10 ⁻⁶ to 10 ⁻⁴
Survey Unit 38 ⁽²⁷⁾	1.838	< 15	3.535 x 10 ⁻⁵	< 10 ⁻⁶ to 10 ⁻⁴
Survey Unit 134 ⁽²⁸⁾	< 1	< 15	3.721 x 10 ⁻⁷	< 10 ⁻⁶ to 10 ⁻⁴
Survey Unit 135 ⁽²⁹⁾	< 2	< 15	2.519 x 10 ⁻⁵	< 10 ⁻⁶ to 10 ⁻⁴

The National Council on Radiation Protection and Measurements in 1993 stated, “ALARA [as low as reasonably achievable] is simply the continuation of good radiation-protection programs and practices which traditionally have been effective in keeping the average and individual exposures for monitored workers well below the limits.” To ensure that ALARA levels were met, the TCRA was designed to (1) substantially reduce ionizing radiation below cleanup goals, and (2) eliminate identified pathways of exposure to ionizing radiation.

2.5.2 Ecological Risk Assessment

An [ecological risk assessment](#)⁽³⁰⁾ was conducted for Parcel A, which originally included Parcel D-2, in 1994. No significant exposure routes were identified, and risk to terrestrial species was determined to be minimal because most of Parcel A was developed or covered with manmade structures. As a result, no action was recommended to address ecological risk at Parcel A, including Parcel D-2.

2.6 COMMUNITY PARTICIPATION

Community participation at HPS includes a Community Environmental Forum, public meetings, public information repositories, newsletters and fact sheets, public notices, and an IR Program website. The Community Involvement Plan for HPS provides detailed information on community participation for the IR Program and documents interests, issues, and concerns raised by the community about the ongoing investigation and cleanup at HPS.

Documents and relevant information relied on in the remedy selection process will be made available for public review in the public information repositories listed below or on the [IR Program website](#)⁽³¹⁾.

San Francisco Main Library
100 Larkin Street
Government Information Center, 5th Floor
San Francisco, California 94102
Phone: (415) 557-4500

Anna E. Waden Bayview Library
5075 Third Street
San Francisco, California 94124
Phone: (415) 355-5757

For access to the Administrative Record or additional information on the IR Program, contact:

Mr. Keith Forman
Hunters Point Shipyard BRAC Environmental Coordinator
Base Realignment and Closure Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310
Phone: (619) 532-0913
e-mail: keith.s.forman@navy.mil

In accordance with CERCLA §§ 113 and 177, the Navy provided a public comment period from August 7, 1995, through September 5, 1995, for Parcel A, which included the area now identified as Parcel D-2. A public meeting was held on August 22, 1995, where the basis for no further action at Parcel A was presented. A transcript of the public meeting is available to the public at the information repositories. In addition, the Navy provided a public comment period from July 23, 2008, to August 22, 2008, for the Proposed Plan for Parcel D, which provides the basis for the remedies at Parcels D-1, D-2, G, and UC-1. A public meeting to present the Proposed Plan was held at 6:30 p.m. on July 30, 2008. During the public meeting, the Navy discussed the no further action ROD planned for Parcel D-2. Public notice of the meeting and the availability of documents appeared in the *San Francisco Examiner* on July 27, 2008.

3. RESPONSIVENESS SUMMARY

The responsiveness summary provides the Navy's responses to questions raised during the public comment period. The Navy requested comments on the Parcel D Proposed Plan, which included Parcel D-2, in mailed copies of the Proposed Plan and during a public meeting. The participants in the public meeting held on July 30, 2008, included members of the community, Restoration Advisory Board members, and representatives of the Navy, EPA, DTSC, and the Water Board. Questions and concerns received during the meeting were addressed at the meeting and are documented in the meeting transcript. During the meeting and the July 23 to August 22, 2008, comment period, no general or specific comments were received by the Navy, EPA, DTSC, or the Water Board that were applicable to Parcel D-2. The Navy received general and specific comments that were applicable to Parcels D-1, G, and UC-1. The ROD for Parcel G and the combined ROD for Parcels D-1 and UC-1 will include responses to those comments.